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EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,637

Applicant(s)

SU ET AL.

Examiner

Wesley D. Markham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005 and 11 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-37, 39-42, 68 and 77-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 68 and 80-91 is/are allowed.
- 6) ☒ Claim(s) 1-15, 21, 22, 26-37, 39 and 77 is/are rejected.
- 7) ☒ Claim(s) 17-20, 23-25, 40-42, 78 and 79 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 and 22 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/22/05
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

HLL

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of the response filed on 2/22/2005, in which the specification of the instant application was amended, two (2) sheets of replacement drawings were submitted, Claims 25 and 31 were amended, Claims 16, 38, 43 – 67, and 69 – 76 were canceled, and Claims 80 – 91 were added. Acknowledgement is also made of the response filed on 4/11/2005, in which a substitute abstract of the disclosure was submitted on a separate sheet. **Claims 1 – 15, 17 – 37, 39 – 42, 68, and 77 – 91** are pending in U.S. Application Serial No. 10/075,637, and an Office action on the merits follows.

Information Disclosure Statement

2. The IDS filed by the applicant on 2/22/2005 is acknowledged, and the documents listed thereon have been considered by the examiner as indicated on the attached copy of the PTO-1449 form.

Drawings

3. The objections to the drawings set forth in paragraph 4 of the previous Office action (i.e., the non-final Office action mailed on 10/20/2004) are withdrawn in light of the applicant's amendment to insert appropriate reference numbers into the specification and the applicant's submission of two (2) acceptable sheets of replacement drawings.

Specification

4. The objections to the specification, including the abstract of the disclosure, set forth in paragraphs 6 and 7 of the previous Office action are withdrawn in light of the applicant's amendments to correct the informalities noted by the examiner.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The rejection of Claims 25, 31, and 32 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, set forth in paragraphs 10 and 11 of the previous Office action, is withdrawn in light of the applicant's amendment to clarify the antecedent basis issues raised by the examiner.

Terminal Disclaimer

7. The terminal disclaimer filed on 2/22/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on U.S. Application Serial No. 10/712,704 has been reviewed and is accepted. The terminal disclaimer has been recorded. As such, the

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provisional obviousness-type double patenting rejections set forth in paragraphs 39 – 43 of the previous Office action are withdrawn.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Ram et al. (WO 97/41180 A1).

10. Regarding **Claims 1, 26, and 27**, Ram et al. teaches a method of applying a coating to an optical device, the method comprising placing a coating solution in a cliché of a cliché plate, transferring the coating solution from the cliché to a transfer pad that has a deformable body (e.g., made of silicone rubber) retaining the coating solution, and pressing the transfer pad to the optical device so as to transfer the coating solution from the body of the transfer pad to the optical device, wherein the optical device is a selected one of a spectacle lens or a mold for forming a spectacle lens (Abstract, pages 1 – 4, page 8, lines 15 – 30, and page 9, lines 24 – 27). The coating is abrasion resistant so that the imprinted articles (e.g., lenses) can be safely packaged and shipped (page 3, lines 21 – 30) (i.e., the coating solution imparts scratch-resistant properties to the optical device, as claimed by the applicant).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 3, 4, 6 – 8, 28, 29, and 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram et al. in view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012).

14. Ram et al. teaches all the limitations of **Claims 3, 4, 28, and 29** as set forth above in paragraph 10, except for the specifics of the coating solution reservoir and the cliché plate structure and operation (e.g., filling the cliché of the cliché plate with coating solution from the reservoir, the reservoir having a body with first and second ends, a

longitudinal axis, and defining an axially extending bore, a cap closing the bore at the first end, and a wiper blade surrounding the bore at the second end, the filling step comprising "positioning the reservoir..." and "moving the cliché plate relative to the reservoir..."). Additionally, Ram et al. teaches all the limitations of **Claims 6 – 8 and 31 – 33** as set forth above in paragraph 10, except for the specifics (i.e., the relative movements of the transfer pad, cliché plate, and optical device) of the transferring and pressing steps recited in the claims. However, the particular operation and structure of the cliché plate (i.e., how it is filled with the coating solution, the relative movements of the pad, plate, and optical device, etc.) does not appear to be particularly limited in the process of Ram et al. Dietz et al. teaches a suitable cliché plate / coating solution reservoir that can be utilized in pad printing devices and processes (i.e., processes analogous to that of Ram et al.). The cliché plate / coating solution reservoir of Dietz et al. and its operation meet the limitations of Claims 3, 4, 28, and 29 (see abstract, figures 2, 4, and 6, col.1, col.2, lines 42-65, col.4, and col.5, lines 40-67 of Dietz et al.). It would have been obvious to one of ordinary skill in the art to utilize the cliché plate / coating reservoir structure and filling system and method of Dietz et al. in the process of Ram et al. because Ram et al. is silent regarding the specific operation of the cliché plate system (i.e., its interior structure, how it is filled, etc.), and Dietz et al. teaches a suitable method and apparatus for inking (i.e., filling the cliché of) a cliché plate, as desired by Ram et al. Additionally, Ram et al. is silent regarding the aforementioned relative movements of the transfer pad, cliché plate, and optical device during the "transferring" and

“pressing” steps, but the process of Ram et al. does not appear to be particularly limited so long as the desired printed pattern is formed on the spectacle lenses. Magdassi teaches a similar process of pad-printing patterns on lenses and teaches the specifics (i.e., the relative movements of the transfer pad, cliché plate, and optical device) of the transferring and pressing steps recited in Claims 6 – 8 and 31 – 33 (abstract, figures 1-3, col.2, lines 63-68, col.3, lines 1-11, col.4, lines 32-52, col.5, lines 47-68, and col.6 of Magdassi). It would have been obvious to one of ordinary skill in the art to perform the pad printing process of Ram et al. by using the specific process taught by Magdassi (i.e., the relative movements of the transfer pad, cliché plate, and optical device during the transferring and pressing steps, as claimed by the applicant) with the reasonable expectation of successfully and advantageously producing a pad printed lens using a well-known series of process steps / relative movements of the pad printing apparatus, as taught by Magdassi.

15. Claims 5 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram et al. in view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Phlipp (USPN 4,557,195).

16. The combination of Ram et al., Magdassi et al., and Dietz et al. teaches all the limitations of **Claims 5 and 30** as set forth above in paragraph 14, except that the reservoir has an inlet through the cap through which coating solution is supplied into the bore of the reservoir. Specifically, the aforementioned combination of references is silent as to how the coating solution reservoir is filled. Phlipp teaches that it was

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known in the art at the time of the applicant's invention to fill the reservoir of a pad printing machine by supplying the solution through the inlet of the reservoir (abstract, figures 8 and 10, col.1, col.5, lines 65-68, col.6, lines 1-6, col.9, lines 10-17, and col.13, lines 54-63). It would have been obvious to one of ordinary skill in the art to fill the reservoir of the combination of Ram et al., Magdassi et al., and Dietz et al. in the manner taught by Phlipp (and claimed by the applicant), specifically through cap "28" (see col.4, lines 59-61 of Dietz et al.), with the reasonable expectation of successfully and advantageously using a known method of supplying coating solution to a pad-printing reservoir, thereby allowing the system to properly function in the manner desired by the purveyor in the art (i.e., to contain the desired amount of coating solution required to successfully perform a pad-printing operation).

17. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram et al. in view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Tarumi et al. (USPN 4,329,378).
18. The combination of Ram et al., Magdassi, and Dietz et al. teaches all the limitations of **Claims 12 and 13** as set forth above in paragraphs 10 and 14, except for a method wherein the coating solution is applied to substantially the entire optical surface (i.e., lens). Please note that Ram et al. does teach that the coating is dried (i.e., cured) to form a coating on the lens (page 9, lines 24 – 27), as required by Claim 13. Specifically, the coating solution of Ram et al. is pad printed into a desired pattern on the lens (abstract), not on substantially the entire lens surface. However,

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Tarumi et al. teaches that, in the art of pad printing plastic eyeglass lenses for subsequent identification (i.e., a process analogous to that of Ram et al.), the lens can be marked in whole or in part (abstract, col.1, lines 29-46, and example 4).

Therefore, it would have been obvious to one of ordinary skill in the art to utilize the pad printing process of the combination of Ram et al., Magdassi, and Dietz et al. to print a coating on substantially the entire lens surface (i.e., to mark the lens in whole, as taught by Tarumi et al.) because Tarumi et al. teaches that the goal of Ram et al. (i.e., obtaining a lens that can be subsequently identified due to a pad printed coating) can be achieved by either marking the lens in whole (as claimed by the applicant) or in part (as taught by Ram et al.).

19. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram et al. in view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Sanyo (JP 07-245499 A).

20. The combination of Ram et al., Magdassi, and Dietz et al. teaches all the limitations of **Claims 21 and 22** as set forth above in paragraphs 10 and 14, except for a method that further comprises placing a screen over the optical surface, applying the coating solution to the screen (e.g., by pressing the transfer pad against the screen), and pressing the transfer pad against the screen and to the optical surface to transfer the coating solution from the transfer pad / screen to the optical surface. However, an overall goal of Ram et al. is to transfer pad print a desired pattern onto the surface of an optical device (e.g., a spectacle lens) for identification (abstract).

Sanyo teaches that a transfer pad printing process can be carried out by pressing the pad onto a screen mask so as to transfer a pattern from the mask to a substrate (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to perform the process of the combination of Ram et al., Magdassi, and Dietz et al. while placing a screen having a desired pattern over the lens (i.e., pressing the transfer pad against the screen to transfer the coating solution from the pad, to and through the screen, and to the underlying lens) with the reasonable expectation of successfully and advantageously insuring that the desired pattern is accurately transferred from the transfer pad to the spectacle lens due to the patterned screen interposed between the pad and the lens.

21. Claims 1, 3, 4, 6 – 9, 26 – 29, and 31 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012).

22. Regarding **Claims 1, 3, 4, 6 – 8, 26 – 29, and 31 – 33**, Doshi teaches a method for applying a coating to an optical device, specifically a “lens”, the method comprising transfer pad printing a desired pattern on the surface of the lens (or on the surface of a mold used to make the lens) in order to mark or tint the lens (abstract, figures 5-7, col.3, lines 45-54, col.8, lines 43-56, col.10, lines 5-11, col.12, lines 13-33 and 61-67, col.13, lines 1-3 and 48-67, col.14, lines 23-65, col.18, lines 3-12 and 31-51, col.19, lines 62-67, col.24, lines 20-31, col.26, lines 56-67, and col.27, lines 1-7). Doshi does not explicitly teach that the lens is a spectacle lens, as required by

independent Claims 1 and 26. However, Doshi broadly defines the "lens" in the context of the invention as being "a composition of matter that can transmit light" (col.8, lines 66 – 67). Further, Ram et al. teaches that it was known in the art at the time of the applicant's invention to pad print a desired pattern onto the surface of a spectacle lens for subsequent identification (Abstract, pages 1 – 4, page 8, lines 15 – 30, and page 9, lines 24 – 27). Therefore, it would have been obvious to one of ordinary skill in the art to perform the pad printing process of Doshi to mark a spectacle lens, as taught by Ram et al., with the reasonable expectation of (1) success, as a "lens" is very broadly defined by Doshi so as to include a spectacle lens, and (2) obtaining the benefits of the process of Doshi, e.g., printing desired images on or within the lens for aesthetic or identification purposes, as such benefits pertain to any kind of lenses, including contact lenses (as explicitly taught by Doshi) and spectacle lenses (as taught by Ram et al.). Further, Doshi does not explicitly teach the specifics of the pad printing process (e.g., placing a coating solution in a cliché of a cliché plate, transferring the coating solution to a deformable transfer pad, and pressing the transfer pad to the optical device surface to transfer the coating solution from the deformable body of the pad to the device, as required by Claims 1, 26, and 27. However, Doshi does teach using a pad printing process in general (col.8, lines 43-56, col.13, lines 65-66, col.14, lines 23-29), including pad printing processes that are known in the art (col.14, lines 23-29). This teaching would motivate one of ordinary skill in the art to seek-out and utilize a pad printing process that is known in the art in order to carry-out the process of Doshi. Ram et al. (pages

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1 – 4, page 8, lines 15 – 30, and page 9, lines 24 – 27), Magdassi (abstract, figures 1-3, col.2, lines 63-68, col.3, lines 1-11, col.4, lines 32-52, col.5, lines 47-68, and col.6), and Dietz et al. (abstract, figures 2- 4 and 6, col.1, col.2, lines 42-65, col.4, and col.5, lines 40-67) teach the specifics of the pad printing process claimed by the applicant (e.g., placing a coating solution in a cliché of a cliché plate, transferring the coating solution to a deformable transfer pad, and pressing the transfer pad to the optical device surface to transfer the coating solution from the deformable body of the pad to the device). It would have been obvious to one of ordinary skill in the art to utilize the aforementioned well-known series of process steps to carry-out the pad printing process of Doshi with the reasonable expectation of successfully and advantageously using a pad printing process known in the art, which is explicitly desired by Doshi, to achieve the goal of Doshi (i.e., printing an image on the lens). Further, Doshi does not explicitly teach that the coating solution, “imparts scratch-resistant properties to the optical device”, as required by independent Claims 1 and 26. However, the inks (i.e., coating solution) taught by Doshi comprise various monomeric and/or polymeric materials (see cols.11 – 12) and are polymerized onto the lens surface (col.14, lines 50-57). It is the examiner’s position that the polymerized ink coatings of Doshi would have inherently imparted some “scratch-resistant properties” to the lens (e.g., because a lens with a coating would be at least marginally more “scratch-resistant” than a lens without the coating due to the presence of the coating). Further, the combination of Doshi and Ram et al. teaches all the limitations of Claims 3, 4, 28, and 29 as set forth above, except for the

specifics of the coating solution reservoir and the cliché plate structure and operation (e.g., filling the cliché of the cliché plate with coating solution from the reservoir, the reservoir having a body with first and second ends, a longitudinal axis, and defining an axially extending bore, a cap closing the bore at the first end, and a wiper blade surrounding the bore at the second end, the filling step comprising "positioning the reservoir..." and "moving the cliché plate relative to the reservoir..."). Additionally, the combination of Doshi and Ram et al. teaches all the limitations of Claims 6 – 8 and 31 – 33 as set forth above, except for the specifics (i.e., the relative movements of the transfer pad, cliché plate, and optical device) of the transferring and pressing steps recited in the claims. However, the particular operation and structure of the cliché plate (i.e., how it is filled with the coating solution, the relative movements of the pad, plate, and optical device, etc.) does not appear to be particularly limited in the process of Doshi. Dietz et al. teaches a suitable cliché plate / coating solution reservoir that can be utilized in pad printing devices and processes (i.e., processes analogous to that of Doshi). The cliché plate / coating solution reservoir of Dietz et al. and its operation meet the limitations of Claims 3, 4, 28, and 29 (see abstract, figures 2, 4, and 6, col.1, col.2, lines 42-65, col.4, and col.5, lines 40-67 of Dietz et al.). It would have been obvious to one of ordinary skill in the art to utilize the cliché plate / coating reservoir structure and filling system and method of Dietz et al. in the process of the combination of Doshi and Ram et al. because Doshi is silent regarding the specific operation of the cliché plate system (i.e., its interior structure, how it is filled, etc.), and Dietz et al. teaches a suitable method and apparatus for

inking (i.e., filling the cliché of) a cliché plate, as desired by Doshi. Additionally, Doshi is silent regarding the aforementioned relative movements of the transfer pad, cliché plate, and optical device during the “transferring” and “pressing” steps, but the process of Doshi does not appear to be particularly limited so long as the desired printed pattern is formed on the lenses. Magdassi teaches a similar process of pad-printing patterns on lenses and teaches the specifics (i.e., the relative movements of the transfer pad, cliché plate, and optical device) of the transferring and pressing steps recited in Claims 6 – 8 and 31 – 33 (abstract, figures 1-3, col.2, lines 63-68, col.3, lines 1-11, col.4, lines 32-52, col.5, lines 47-68, and col.6 of Magdassi). It would have been obvious to one of ordinary skill in the art to perform the pad printing process of the combination of Doshi and Ram et al. by using the specific process taught by Magdassi (i.e., the relative movements of the transfer pad, cliché plate, and optical device during the transferring and pressing steps, as claimed by the applicant) with the reasonable expectation of successfully and advantageously producing a pad printed lens using a well-known series of process steps / relative movements of the pad printing apparatus, as taught by Magdassi. Regarding **Claims 9 and 34**, Doshi does not explicitly teach moving the optical device (i.e., lens) to a third position for irradiating. However, Doshi does teach polymerizing the coating (col.14, lines 50-57) with UV irradiation or thermally (col.13, lines 1-3), but is silent regarding where the irradiation occurs. Magdassi teaches that it was known in the art to transfer a pad printed lens to another location (e.g., an oven) for curing (col.6, lines 1-13). Therefore, it would have been obvious to one of ordinary skill in the art to

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move the pad printed lens of the combination of Doshi, Ram et al., Dietz et al., and Magdassi to a position for irradiating (e.g., with heat or UV) with the reasonable expectation of successfully curing / polymerizing the coating in a manner consistent with that which is known in the art.

23. Claims 2, 10, 11, and 35 – 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Blum (USPN 5,219,497).

24. The combination of Doshi, Ram et al., Magdassi, and Dietz et al. teaches all the limitations of **Claims 2, 10, 11, and 35 – 37** as set forth above in paragraph 22, except for a method wherein the coating layer is formed / cured with the application of microwave energy (e.g., generated by a microwave source / oven) as well as with another form of energy such as UV or IR (i.e., energy having a wavelength outside the wavelength range of microwaves). Specifically, Doshi teaches heat or UV polymerizing (col.12, lines 61-67, col.13, lines 1-3, and col.26, lines 56-67).

However, Blum teaches that a combination of energy such as heat generated by microwaves, IR, visible light, etc. and UV light can speed up the process of curing coatings on lenses as well as achieving a more even cure (abstract, col.5, lines 3-9, col.9, lines 22-45, col.10, lines 34-45 and 58-59, col.12, lines 13-26, and col.18, lines 19-47). Therefore, it would have been obvious to one of ordinary skill in the art to utilize a combination of microwave (e.g., from any source / oven), IR, UV, and/or

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visible light energy to cure the coatings of Doshi with the reasonable expectation of successfully and advantageously speeding up the curing process and achieving a more even cure, as taught by Blum.

25. Claims 5 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Philipp (USPN 4,557,195).

26. The combination of Doshi, Ram et al., Magdassi et al., and Dietz et al. teaches all the limitations of **Claims 5 and 30** as set forth above in paragraph 22, except that the reservoir has an inlet through the cap through which coating solution is supplied into the bore of the reservoir. Specifically, the aforementioned combination of references is silent as to how the coating solution reservoir is filled. Philipp teaches that it was known in the art at the time of the applicant's invention to fill the reservoir of a pad printing machine by supplying the solution through the inlet of the reservoir (abstract, figures 8 and 10, col.1, col.5, lines 65-68, col.6, lines 1-6, col.9, lines 10-17, and col.13, lines 54-63). It would have been obvious to one of ordinary skill in the art to fill the reservoir of the combination of Doshi, Ram et al., Magdassi et al., and Dietz et al. in the manner taught by Philipp (and claimed by the applicant), specifically through cap "28" (see col.4, lines 59-61 of Dietz et al.), with the reasonable expectation of successfully and advantageously using a known method of supplying coating solution to a pad-printing reservoir, thereby allowing the system

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to properly function in the manner desired by the purveyor in the art (i.e., to contain the desired amount of coating solution required to successfully perform a pad-printing operation).

27. Claims 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Tarumi et al. (USPN 4,329,378).

28. The combination of Doshi, Ram et al., Magdassi, and Dietz et al. teaches all the limitations of **Claims 12, 13, and 15** as set forth above in paragraph 22, except for a method wherein the coating solution is applied to substantially the entire optical surface (i.e., lens). Please note that Doshi does teach that the coating is polymerized (i.e., cured) with a UV curing source to form a coating on the lens (col.12, lines 61-67, col.13, lines 1-3, and col.26, lines 56-67), as required by Claims 13 and 15. Additionally, Doshi teaches that the pattern can be printed on the entire lens (col.18, lines 9-10). Tarumi et al. teaches that, in the art of pad printing plastic eyeglass lenses for subsequent identification (i.e., a process analogous to that of Doshi and Ram et al.), the lens can be marked in whole or in part (abstract, col.1, lines 29-46, and example 4). Therefore, it would have been obvious to one of ordinary skill in the art to utilize the pad printing process of the combination of Doshi, Ram et al., Magdassi, and Dietz et al. to print a coating on substantially the entire lens surface (i.e., to mark the lens in whole, as taught by Tarumi et al.) because

Tarumi et al. teaches that the subsequent identification of a pad printed lens can be achieved by either marking the lens in whole (as claimed by the applicant) or in part. Further, the exact proportion of the lens surface that is pad-printed with the coating solution would be determined by the purveyor in the art based on aesthetic preferences (e.g., the kind and amount of tinting of the lens desired by the user).

29. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Tarumi et al. (USPN 4,329,378), in further view of Blum.

30. The combination of Doshi, Ram et al., Magdassi, Dietz et al., and Tarumi et al. teaches all the limitations of **Claim 14** as set forth above in paragraph 28, except for a method wherein the curing source comprises radiation generated by an IR light source. Specifically, Doshi teaches heat or UV polymerizing (col.12, lines 61-67, col.13, lines 1-3, and col.26, lines 56-67). However, Blum teaches that a combination of energy such as heat generated by microwaves, IR, visible light, etc. and UV light can speed up the process of curing coatings on lenses as well as achieving a more even cure (abstract, col.5, lines 3-9, col.9, lines 22-45, col.10, lines 34-45 and 58-59, col.12, lines 13-26, and col.18, lines 19-47). Therefore, it would have been obvious to one of ordinary skill in the art to utilize a combination of microwave, IR, UV, and/or visible light energy to cure the coatings of Doshi with the

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reasonable expectation of successfully and advantageously speeding up the curing process and achieving a more even cure, as taught by Blum.

31. Claims 21, 22, and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Sanyo.

32. The combination of Doshi, Ram et al., Magdassi, and Dietz et al. teaches all the limitations of **Claims 21, 22, and 77** as set forth above in paragraph 22, except for a method that further comprises placing a screen over the optical surface, applying the coating solution to the screen (e.g., by pressing the transfer pad against the screen), and pressing the transfer pad against the screen and to the optical surface to transfer the coating solution from the transfer pad / screen to the optical surface. However, an overall goal of Doshi is to transfer pad print a desired pattern onto the surface of an optical device (e.g., a lens) (abstract). Sanyo teaches that a transfer pad printing process can be carried out by pressing the pad onto a screen mask so as to transfer a pattern from the mask to a substrate (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to perform the process of the combination of Doshi, Ram et al., Magdassi, and Dietz et al. while placing a screen having a desired pattern over the lens (i.e., pressing the transfer pad against the screen to transfer the coating solution from the pad, to and through the screen, and to the underlying lens) with the reasonable expectation of successfully and advantageously insuring that the desired pattern is accurately transferred from the

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transfer pad to the spectacle lens due to the patterned screen interposed between the pad and the lens.

33. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi (USPN 6,315,410 B1) in view of Ram et al., in further view of Magdassi (USPN 4,946,269) and Dietz et al. (USPN 6,129,012), in further view of Nabitasu KK (JP 63-274515 A).

34. The combination of Doshi, Ram et al., Magdassi, and Dietz et al. teaches all the limitations of **Claim 39** as set forth above in paragraph 22, except for a method wherein the optical device is a mold for forming a spectacle lens, specifically both a front and back mold, each mold having a facing inside surface which is its optical surface (on which the coating is pad printed). However, Doshi does teach that the image can be printed on both sides of the lens (col.18, lines 7-10) and on the surface of a mold used to form the lens (figures 6 and 7). Nabitasu KK teaches that, by pad printing a pattern onto a mold before molding, complicated and fine patterns can be simply produced when the pattern is transferred to the surface of a subsequently molded substrate (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to pad print a desired pattern onto both a front and back mold surface for forming a spectacle lens in the process of the combination of Doshi, Ram et al., Magdassi, and Dietz et al. with the reasonable expectation of successfully and advantageously producing a complicated and fine pattern on both

the front and back surfaces of the lens, as desired by Doshi, due to the simple in-mold printing method.

Allowable Subject Matter

35. Claims 17 – 20, 23 – 25, 40 – 42, 78, and 79 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 68 and 80 – 91 are allowed. Additionally, Claims 17 – 20, 23 – 25, 40 – 42, 78, and 79 are objected to under 37 CFR 1.75 as being a substantial duplicate of newly added Claims 80 – 91. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).
36. Additionally, please note that new independent Claim 87 corresponds literally to previous dependent Claim 40 rewritten in independent form. However, in literally transcribing the claim into independent form, a portion of Claim 87 appears to indicate that the optical device can be either a spectacle lens or a mold for forming a spectacle lens (see step b.), while the remainder of the claim clearly indicates that the optical device that is pad printed with the coating solution is the facing inside surfaces of both a front mold and a back mold (see steps a. and c. – g.). Based on the claim as a whole, it is clear that the “optical device” to which the transfer pad is pressed comprises “both a front mold and a back mold, each mold having a facing

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inside surface which is its optical surface", not a spectacle lens itself. However, the applicant is suggested to amend Claim 87 to clarify the language and avoid any possible confusion.

37. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not teach or reasonably suggest the following claim limitations in conjunction with the applicant's claimed transfer pad coating process:

(1) the coating solution is applied to substantially the entire surface of the optical device, wherein the surface is the facing inside surfaces of both a front mold and a back mold (Claims 17 – 20 and 80 – 83); (2) the specific structure of the screen used in the process (Claims 23 – 25, 78, 79, 84 – 86, 90, and 91); and (3) the specific combination of irradiating (microwave) and curing (wavelength outside the microwave range) steps in conjunction with the mold coating process (Claims 40 – 42, 68, and 87 – 89).

Response to Arguments

38. Applicant's arguments filed on 2/22/2005 have been fully considered but they are not persuasive.

39. Regarding the 35 U.S.C. 102 and 103 rejections based (in part) on Ram and Doshi, the applicant argues that neither Ram nor Doshi teach a coating solution "which imparts scratch-resistance properties to the optical device". To support this argument, the applicant states that Ram's "abrasion resistant" ink prints do not encompass a coating on a lens that provides "improved scratch-resistance", which

these claims specify; the printing ink and abrasion-resistant coatings in Ram are two distinct items; the printed ink of Ram does not come into contact with the vast majority of the surface of the lenses; the markings of Ram are easily washed-off with water, while scratch-resistant coatings are designed to provide protection to the lenses on which they are applied for the life of the lenses, without being removed using water or any other method; and simply because a coating exists on a surface material does not imply that the coating imparts scratch-resistant properties to that surface material (e.g., if the coating has the same or inferior scratch resistant properties compared to the surface it coats).

40. In response, this argument is not convincing. It appears to the examiner that the applicant's arguments are based on an overly narrow interpretation of the claims. For example, the claims merely require, "placing a coating solution which imparts scratch-resistant properties to the optical device in a cliché or a cliché plate". The claims do not require that the coating provide "improved scratch-resistance", scratch resistance over the entire optical surface, or permanent scratch-resistance for the life of the optical device, or that the coating cannot be water-soluble, as the applicant appears to argue. The pad printed coatings / ink markings of Ram and Doshi are polymer-based and are dried and/or polymerized on the surface of the optical device. In other words, the coatings are a solid material on at least a portion of the optical device. For such a coated optical device to be scratched, a material that can scratch the device (e.g. a "scratching object") must be applied to the device with enough force to (1) penetrate or remove the coating and (2) scratch the exposed

device. This amount of force (force to penetrate or remove coating + force to scratch device) is greater than the amount of force required to scratch an identical uncoated device (force to scratch device) because the force of the "scratching object" required to penetrate or remove the solid coating is no longer needed. Therefore, Ram and Doshi meet the claimed limitation of "a coating solution which imparts scratch-resistant properties to the optical device". If the applicant intends the claims to be limited to a certain high degree of scratch resistance, permanent scratch resistance, specific scratch-resistant materials, etc., then the applicant is suggested to include such limitations in the claims.

41. Regarding the 35 U.S.C. 103 rejections based, in part, on Sanyo, the applicant argues that the claimed method requires transferring the coating solution from the pad to the optical surface through a screen, whereas Sanyo teaches fluid being transferred from a screen to a transfer pad and then to a surface. The applicant states that, by transferring the coating solution onto the optical surface through a screen as claimed, the rate at which the coating solution passes through the screen to the optical surface is controlled, resulting in a coating layer with better uniformity.
42. In response, this argument is not convincing. The examiner maintains that an overall goal of Doshi is to transfer pad print a desired pattern onto the surface of an optical device (e.g., a lens) (abstract). Sanyo teaches that a transfer pad printing process can be carried out by pressing the pad onto a screen mask so as to transfer a desired pattern (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to perform the process of the combination of Doshi, Ram et al.,

Magdassi, and Dietz et al. while placing a screen having a desired pattern over the lens (i.e., pressing the transfer pad against the screen to transfer the coating solution from the pad, to and through the screen, and to the underlying lens) with the reasonable expectation of successfully and advantageously insuring that the desired pattern is accurately transferred from the transfer pad to the spectacle lens due to the patterned screen interposed between the pad and the lens. Such a benefit would have been expected by one of ordinary skill in the art, regardless of whether the transfer pad is pressed against the patterned screen to pick-up the coating material (as taught by Sanyo) or pressed against the patterned screen to deposit the coating material (as claimed by the applicant). In other words, both methods of using the screen would have been expected to achieve the same result (i.e., pad printing a desired pattern on the optical device). To further support this position, please see Inaba (JP 60-250984 A) (Abstract), which teaches that it is conventional in the printing art to place a patterned screen over a surface and then press an applicator (squeegee) against the screen to accurately transfer the desired pattern to an underlying surface. Regarding the applicant's comment that, by transferring the coating solution onto the optical surface through a screen as claimed, the rate at which the coating solution passes through the screen to the optical surface is controlled, resulting in a coating layer with better uniformity, please note that the claims are open to depositing a pattern (i.e., a non-uniform layer) through the screen. However, the references cited by the examiner do not appear to teach or suggest using the screen to control the rate at which the coating solution passes

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through the screen to the optical device, thereby resulting in a uniform coating layer on the device.

Conclusion

The following prior art is made of record. Richter et al. (USPN 6,488,981) teaches depositing a protective hard coating on a touch-screen panel by pad printing (Col.7, lines 50 – 59). Arakawa et al. (JP 64-064147 A) teaches depositing a protective layer of ink on an optical disk by pad printing.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D. Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WDM

Wesley D Markham
Examiner
Art Unit 1762



TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER